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Elachi, Weiler weigh in on budget

Proposed FY 2003 funding 'very positive' for Lab, director says

By Mark Whalen

JPL Director Dr. Charles Elachi, left, joins NASA Associate Administrator for Space Science Dr. Ed Weiler during the latter's visit to JPL Feb. 7.



JPL DIRECTOR DR. CHARLES ELACHI last week termed NASA's proposed fiscal year 2003 budget "very positive," reflecting strong support from the Bush administration and the new NASA administrator, Sean O'Keefe.

The director addressed Lab employees Feb. 5 in von Kármán Auditorium, discussing the implications of the proposed budget on JPL and its programs.

Two days later, NASA Associate Administrator for Space Science Dr. Ed Weiler also spoke to JPL staff about the budget and related issues (see story below).

NASA's Space Science budget, from which JPL receives the lion's share of its funding, is projected to grow from \$3.4 billion in '03 to \$4.5 billion in '07. "That's a very healthy increase, an average of about 7 percent per year, in planetary and astrophysics activities," Elachi said. "This is in the spirit of what NASA is supposed to do, which is exploration, and is a reflection on the past performance of space science activities."

Earth Science received an increase of about \$27 million in the proposal, to about \$1.63 billion. The small increase is due in part to a government-wide review on all climate modeling research activity. "When that review is completed, I'm optimistic that there will be a positive adjustment" in the budget, Elachi said.

The Biology and Physical Research area, from which JPL receives funding for its micro-

gravity studies, is also growing at "a respectable level," Elachi said, from about \$800 million to about \$1 billion.

On specific JPL activities, Elachi said the Lab has received "full funding" for the Mars 2003 rovers and the '05 Mars Reconnaissance Orbiter. A major change in the Mars Program is that the launch of the 2007 "smart lander" has been delayed until 2009, and will be nuclear powered. "We will go from landing missions with a three- or four-month lifetime to missions with a lifetime of four to five years," he noted. "We can then say we have a permanent presence on Mars. This will mean a significant increase in science capability and exploration activities."

NASA views power and propulsion as key elements in an active solar system exploration program, Elachi noted, so initiatives have been included in the budget for nuclear power sources (\$79 million for '03). Another \$12 million has been proposed for the development of Mars Radioisotope Thermoelectric Generators (RTGs), which will provide power for outer-planet missions as well as long-term Mars surface missions. The budget also includes funding for research in nuclear propulsion and electric propulsion.

To view archived webcasts of Dr. Elachi's and Dr. Weiler's talks, log on to <http://dailyplanet>. For more details on President Bush's FY 2003 budget request for NASA, visit http://www.nasa.gov/budget/budget2003_index.html.

The view from HQ

Nuclear initiative is key, Weiler says

By Mark Whalen

NASA's proposed FY 2003 budget presents a number of positive implications for JPL, according to Dr. Ed Weiler, NASA's Associate Administrator for Space Science, who spoke to JPL staff Feb. 7.

"These are not good economic times, (but) NASA came out of this smelling like a rose compared to some other domestic agencies," he said. Within the overall budget, space science's allocation of \$3.41 billion represents a 19 percent increase from FY '02. JPL receives the majority of its funding from the Office of Space Science.

The key initiative in the space science budget, Weiler said, is the new Nuclear Systems Initiative, with projected funding of \$970 million over the next five years. "This didn't come out of Europa, or Pluto; it was new money, to do what some of our physicists thought we should be doing 30 years ago," Weiler said.

Nuclear power will "enable a whole class of science, and as far as I'm concerned, it's the future of planetary exploration," Weiler said. "It's not just speed. Instead of flying by Jupiter or dropping into orbit around one moon, you can conceive of a mission where you orbit a moon, do your science, get out of orbit and go to the next moon."

NASA's newly proposed New Frontiers Program will fund one major mission every three years, each with a cost cap of \$650 million. JPL will compete with other institutions for the missions. Weiler added that

he sees JPL as the "management center" for New Frontiers missions, including Deep Space Network support, as well as probable roles in navigation and project management.

As for the nuclear program, "Glenn and Marshall will have development roles, while JPL will oversee this as the ultimate customer," he said. "You guys are going to get these nuclear systems . . . to integrate, and maybe you ought to have a right to say something about it."

On another front, the Mars Program has been restructured, such that there is no longer a specific date for a sample return mission. The emphasis in the current budget is the near-term programs through 2010. "It might be better to build up our knowledge of Mars with five or six landers, build up the technology capability and the telecommunications infrastructure, have nuclear systems ready to go, then do sample return right," Weiler said.

The associate administrator also noted with pride a mark of success he believes his office has achieved: "We've gone beyond making the scientists happy; we've taken the next step of trying to bring that science to the American people. Of particular importance to me is inspiring our youth, to hopefully get them excited about science and engineering again."

"We will be not be doing any nuclear work here, but we will be a major user of the technology," Elachi noted. Development will be done at the Marshall Space Flight Center and Glenn Research Center, in conjunction with the Department of Energy.

A new NASA initiative called New Frontiers will develop frequent flights—every three years—with missions capped at \$650 million, and they will be selected competitively. "I'm really excited about this challenge," Elachi said. "With the kind of talent we have and the capability we have developed over four decades, we should not be afraid at all of competition."

JPL has fared "extremely well" in acquiring new work, Elachi said. "We have more competitively-won principal investigator-led missions than all other institutions across the U.S.—not just NASA centers." Currently, he said, JPL has seven missions that have been won competitively: Stardust, Genesis, Deep Impact, Dawn, Galaxy Evolution Explorer, GRACE and CloudSat.

JPL now has 13 active missions across the solar system, in addition to 10 missions under development. The Lab will also provide a number of major instruments to spacecraft managed by other organizations, including the recent selection to provide a mid-infrared instrument for the Next Generation Space Telescope and develop a New Millennium technology subsystem.

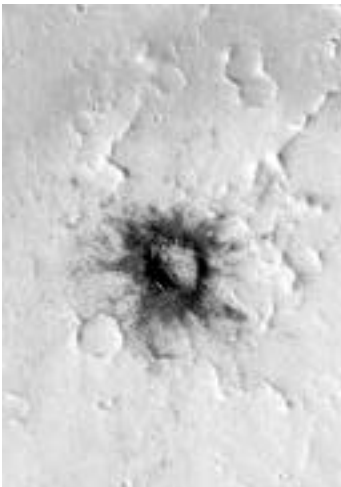
One of Elachi's high priorities is to always have on Lab at least one mission under development in phase A-B, and also one in phase C-D. "That's essential for JPL to keep its end-to-end capability and experience—not only for doing missions, but also for overseeing the missions that we contract out to industry."

Elachi also stated his goal to create an "investment" program to dedicate up to 3 percent of JPL's total budget to future activities. He expects NASA to agree to the plan in the next few weeks, and that for FY '03, this will account for \$10 million to \$15 million.

NASA has transferred funding for the Deep Space Network from the Office of Space Flight to the Office of Space Science, which Elachi termed "a very positive move." Additional funds have been earmarked for between

Continued on page 2

News Briefs



A fresh impact crater and rays in Mars' Tharsis region as imaged by Mars Global Surveyor .

Global Surveyor on extended mission

Like any good camera-wielding tourist, JPL's Mars Global Surveyor continues to shoot stunning pictures as it begins the second extension of its successful mission. Some newly released images show a 3-D view of layers on the Martian surface that may be ancient sedimentary rocks, while others show an unusual spiral-shaped cloud over the giant Arsia Mons volcano.

The images are available online at <http://mars.jpl.nasa.gov/mgs>. Global Surveyor has studied the entire Martian surface, atmosphere and interior, and has returned more data about the Red Planet than all other Mars missions combined.

Odyssey deploys high-gain antenna

JPL's Mars Odyssey spacecraft deployed its high-gain communications antenna earlier this month, marking a major technical milestone prior to the beginning of the science mapping mission. At 7:29 p.m. Pacific time on Feb. 5, mission controllers monitored changes in the radio signal from Odyssey, indicating that the release and deployment of the antenna boom were proceeding as planned. The antenna boom was deployed to its latched position with a motor-driven hinge and locked into place as expected. The antenna's position is controlled with a two-axis gimbal assembly that allows the spacecraft to communicate with Earth while the science instruments are simultaneously collecting data of Mars. Overnight, flight controllers checked out the gimbals, which allow the antenna to be pointed in a variety of positions to track Earth.

"Successful deployment of the high-gain antenna paves the way for Odyssey to achieve the real payoff of the mission, the science data return," said DAVID A. SPENCER, Odyssey's mission manager at JPL.

The science instruments are expected to begin collecting data later this month. Flight controllers first need to test the mapping orientation of the spacecraft, in which the instruments are pointed at Mars while the antenna tracks Earth.

Retirees' medical group seeks help

The Volunteer Professionals for Medical Advancement, a group of

retired JPL and Caltech employees who have donated their time and expertise to local hospitals on medical projects, is seeking to expand the activity nationally and is in need of additional volunteer support staff.

HERMAN BANK, a member of the organization's board of directors, said engineers, scientists and program support staff are needed to help in the application of the latest space technology to advance medicine throughout the United States. Volunteers are asked to donate five to 10 hours a month to the effort.

The Volunteer Professionals for Medical Advancement is an 11-year-old retirees' project that has received some sponsorship support from JPL and Caltech. It has worked with doctors of nine major Los Angeles hospitals on 28 medical projects, Bank said, and seeks to expand to 50 professional chapters nationwide.

Besides engineers and scientists, administrative needs include writers, personnel for publicity and support staff for functions such as documentation, secretarial and proposals.

If interested, call Bank at (626) 791-3748 or write to him at 2245 Altadena Dr., Altadena, 91001.

Correction

An article in the Feb. 1 issue of Universe on the signing of an agreement between JPL and Draper Laboratory should have acknowledged the contributions of Michele Schneider, a contract negotiator in the Acquisition Division.

She received a request on Dec. 10 to prepare the \$10 million contract and arrange for its signing 30 days later. Working over the holidays, Schneider completed preparation and review of the Request For Proposal package, Draper's proposal submission, technical and cost analysis, negotiations, contract preparation, reviews and approvals, and the contract package was completed and available for signature on Jan. 3, a week before the requested date.

Support was provided by a team that included the Avionics Systems and Technology Division, Draper Laboratory, Acquisition, Cost and Price Analysis, Office of General Counsel, and the NASA Management Office.

facilities, software and hardware.

- Lockheed Martin has purchased OAO, JPL's desktop computer services contractor. Elachi said there will be more flexibility in the type of support available, and the new contract will allow longer use of equipment beyond the current three-year replenishment plan, and will be renewed on an annual basis, based on performance.
- Caltech has provided funds that will be used for "employee quality of life" issues, such as special events and celebrations. At the suggestion of the Advisory Council for Women, a Web site will be established to provide resources and information about child care. "I'm going to see how we can help more in this area, because a number of employees have indicated it's important to them," Elachi pledged.
- A self-service package-mailing station at the Lab is under review.
- Family Day will be held in April. "I believe we have a great opportunity to continue our role, which is to enable our nation to explore space for the benefit of humankind," Elachi said in closing. "I'm confident that with the superb talent of each and every one of you here at JPL, we'll be successful in that challenge. And I'm very proud and privileged to be your director."

Special Events Calendar

Ongoing Support Groups

Alcoholics Anonymous—Meetings are available. Call the Employee Assistance Program at ext. 4-3680 for time and location.

Codependents Anonymous—Meeting at noon every Wednesday. Call Occupational Health Services at ext. 4-3319.

Gay, Lesbian and Bisexual Support Group—Meets the first and third Fridays of the month at noon in Building 111-117. Call the Employee Assistance Program at ext. 4-3680 or Randy Herrera at ext. 3-0664.

Senior Caregivers Support Group—Meets the first Thursday of the month at noon in Building 167-111 (The Wellness Place). Call the Employee Assistance Program at ext. 4-3680.

Working Parents Support Group—Meets the third Thursday of the month at noon in Building 167-111 (The Wellness Place). Call the Employee Assistance Program at ext. 4-3680.

Tuesday, February 19

Investment Advice—A TIAA/CREF representative will be available for one-on-one meetings in T-1720, room 132. For an appointment, call (877) 209-3140, ext. 2614.

JPL Hiking+ Club—Meeting at noon in Building 238-543.

Wednesday, February 20

Investment Advice—A TIAA/CREF representative will be available for one-on-one meetings in T-1720, room 131. For an appointment, call (877) 209-3140, ext. 2614.

"Racism, Terrorism and Global White Supremacy after 9/11"—Tim Wise, director of the Association for White Anti-Racist Education, will speak at 8 p.m. in Caltech's Baxter Lecture Hall. Free admission.

Thursday, February 21

Social Security—A representative will be available from 9:30 to 11:30 a.m. in T-1720 to answer questions and discuss planning options. For an appointment, call the Benefits Office, ext. 4-3760.

Von Kármán Lecture Series—JPL Senior Research Scientist Dr. Yoseph Bar-Cohen will discuss current developments and future possibilities for electroactive polymers technology at 7 p.m. in von Kármán Auditorium. Open to the public. Log on to <http://www.jpl.nasa.gov/events/lectures/feb02.html> or call Public Services at ext. 4-0112.

Friday, February 22

TIAA/CREF Enrollment—For newly eligible employees, from noon to 1 p.m. T-1720, room 137,

Von Kármán Lecture Series—JPL Senior Research Scientist Dr. Yoseph Bar-Cohen will discuss current developments and future possibilities for electroactive polymers technology at 7 p.m. in the Forum at Pasadena City College, 1570 E. Colorado Blvd. Open to the public. See <http://www.jpl.nasa.gov/events/lectures/feb02.html> or call Public Services at ext. 4-0112.

Fri., Feb. 22–Sun., Feb. 24

Love's Labours Lost—Shakespeare's comedy will be presented at Caltech's Dabney Lounge Friday and Saturday at 8 p.m., Sunday at 2 p.m. Admission to be determined. Call (626) 395-4652.

Saturday, February 23

Irish Music—Lúnasa will perform traditional music at 8 p.m. in Caltech's Beckman Auditorium. Tickets are \$22, \$18 and \$14. Call (626) 395-4652.

Folk Music—Singer/songwriter Michael Smith will appear at 8 p.m. in Caltech's Dabney Lounge. Tickets are \$12 for adults and \$4 for children under 12. Call (626) 395-4652 or visit <http://www.cco.caltech.edu/~folkmusi>.

Sunday, February 24

Chamber Music—*The King's Consort* concert will include works by Handel, Telemann, Vivaldi, Purcell and Bach and will be held at 3:30 p.m. in Caltech's Beckman Auditorium. Tickets are \$27, \$23, \$19 and \$15. Call (626) 395-4652.

Tuesday, February 26

"Beginning Investments"—This Fidelity workshop, to be held from 2 to 4 p.m. in the Building 167 conference room, is for those who have not yet enrolled, or are newly enrolled, in JPL's voluntary retirement plan. Topics include debt management, investment basics, advantages of tax-deferred savings, and the benefits of starting early.

"Powerful New Methods for Analyzing Massive Data Sets"—Dr. Dennis DeCoste of JPL's Machine Learning Systems Group will speak at noon in conference room 167.

Wednesday, February 27

JPL Toastmasters Club—Meeting at 5 p.m. in the 167 conference room. Guests welcome. Call Joy Hodges at ext. 4-7041 for information.

Thursday, February 28

Caltech Architectural Tour—The Caltech Women's Club presents this free service, which is open to the public. The tour begins at 11 a.m. and lasts about 1 1/2 hours. Meet at the Athenaeum front hall, 551 S. Hill St. Call Susan Lee at (626) 395-6327.

JPL Golf Club—Meeting at noon in Building 306-302.

JPL Stories—Steve Collins, Deep Space 1 attitude control lead, will present "We Few, We Happy Few," from 4 to 5 p.m. in the customer service area of the Library, Building 111. For questions about the story series or to participate, call Teresa Bailey at ext. 4-9233.

Friday, March 1

Songs from Eastern Europe—The Kitka Women's Vocal Ensemble, singing a cappella, will perform at 8 p.m. in Caltech's Beckman Auditorium. Tickets are \$22, \$18 and \$14. Call (626) 395-4652.

Fri., March 1–Sun., March 3

Love's Labours Lost—The Shakespeare comedy will be presented at Caltech's Dabney Lounge Friday and Saturday at 8 p.m., Sunday at 2 p.m. Admission price to be determined. For more information, call (626) 395-4652.

Saturday, March 2

"Planning for Your Child's Educational Future"—David Levy, assistant dean and director of financial aid at Caltech, and Catherine Thomas, associate dean of admissions and financial aid at USC, will speak from 10 a.m. to noon at Verdugo Hills Hospital, 182 Verdugo Blvd., Glendale, 4th floor. A complimentary continental breakfast will be served at 9:45 a.m. Hosted by the JPL Child Educational Center and the Verdugo Hills Hospital Foundation, this free program is open to all parents, grandparents and expectant parents. For reservations, contact Helen Ruppel at ext. 4-3418 or hruppel@caltech.edu.

Wednesday, March 6

"Celebrating the Voice of Women"—JPL's Advisory Council for Women will host a luncheon honoring guest speaker Gail McGovern, the president of Fidelity Personal Investments, who has been named as one of the top 50 most powerful women in the U.S. by Fortune magazine. Seats are limited for the event, which will be held from noon to 1 p.m. at the La Canada Flintridge Country Club, 5500 Godbey Dr. Tickets are \$17. Go online to http://ood-lib.jpl.nasa.gov/ood-lib/dscgi/ds.py/Get/File-1033/Ticket_Request.doc.

Elachi

Continued from page 1

\$200 million to \$250 million over five years. Beyond that, one of Elachi's major goals is to develop an interplanetary communications network. "The DSN has served us superbly, but it was developed 35 years ago," he said. "But for 2010 and beyond, ... what kind of network will we need? We should start thinking about that now."

Elachi also discussed progress on JPL internal matters.

- On personnel issues:
- Two senior levels will be created, with the intent to establish another higher grade, called Fellows. Plans call for implementation in June or July.
- A "very high priority" is the establishment of a career path for business operations personnel—not just for 2X, but also for those who provide administrative support in the technical divisions and projects.
- The Group Supervisors' Task Force is reviewing secretarial job descriptions, including career-level criteria, as well as work-load reduction.

On other institutional issues:

- \$6 million of the burden budget has been dedicated for infrastructure funding, and Elachi intends to increase that "significantly" next year, for lab equipment,

JPL celebrates the 40th anniversary of the first U.S. planetary mission, Mariner 2, and the 25th anniversary of Voyagers 1 and 2

Former JPL directors will join current Lab Director Dr. Charles Elachi on Friday, Feb. 15, to begin a year-long celebration of the 40th anniversary of JPL's first voyage to the planets. The event will be a ribbon-cutting ceremony and dedication of the newly renovated von Kármán Visitor Center, commemorating the first U.S. planetary mission, Mariner 2, and the 25th anniversary of the launches of Voyagers 1 and 2.

Drs. William Pickering, Bruce Murray, Edward Stone and Elachi will take part in a special panel and share their stories of the past—and insights of the future—with local officials and other special invitees. Dr. Lew Allen is unable to attend.

Elachi described the significance of the anniversary during his address to the Lab on Feb. 5. "When we reflect on what this institution and our predecessors have done in the last 40 years, it's absolutely amazing," he said. "From barely being able to put a spacecraft into orbit around our planet to having 13 spacecraft all across the solar system ... It's amazing what this institution and the entire nation has done in the last 40 years."

The Missions

Mariner 2, a JPL mission launched on Aug. 27, 1962, was the first spacecraft to successfully leave Earth's orbit and encounter another planet.

On its 3 1/2-month flight to Venus, Mariner 2 for the first time measured the solar wind—a constant stream of charged particles flowing outward from the Sun. It also measured interplanetary dust, which turned out to be scarcer than predicted. In addition, Mariner 2 detected high-energy charged particles coming from the Sun, including several brief solar flares, as well as cosmic rays from outside the solar system.

As it flew by Venus on Dec. 14, 1962, Mariner 2 scanned the planet with infrared and microwave radiometers, revealing that Venus has cool clouds and an extremely hot surface. Mariner 2's signal was tracked until Jan. 3, 1963. The spacecraft remains in orbit around the Sun.

The twin Voyager spacecraft were launched within a couple of weeks of one another in the summer of 1977. Their mission was to conduct close-up studies of Jupiter and Saturn, Saturn's rings, and the larger moons of the two planets. But as the mission went on, the two-planet mission became four, and the Voyagers completed flybys of the two outermost giant planets, Uranus and Neptune. Their original five-year lifetimes stretched to 12 and then 25 years.

Having completed their planetary explorations, the Voyagers are now studying the environment of space in the outer solar system. Twenty-five years later, although beyond the orbits of all the planets, the spacecraft are still well within the boundary of the Sun's magnetic field.

The Celebration

The von Kármán Visitor Center is the perfect venue for the 40th Anniversary kick-off event, as it houses a bit of space history and a journey through the solar system. At its heart is a life-size model of the Galileo spacecraft that stands 5 meters (17 feet)

tall, creating the focal point for displays about the planets and the spacecraft that have visited them.

The newly dedicated von Kármán Visitor Center will be open to JPLers for a special open house event all day on Tuesday, Feb. 19, from 9 a.m. to 4 p.m. Public Services Office staff will be on hand to answer questions, and refreshments will be available.

Plans for the year-long celebration also include a May ceremony at the Smithsonian Institution's Air and Space Museum in Washington DC, and an event in Sacramento. Guest lists for the Washington and Sacramento events include NASA, Congressional, state and local elected officials. These events will showcase JPL's past accomplishments and turn the spotlight on the valuable contribution the Lab has made to further humankind's understanding and knowledge of our solar system.

The History

The anniversary also provides an opportunity to look back at the history of the Lab. Although historical resources are plentiful, a comprehensive history of JPL does not currently exist in video form. Blaine

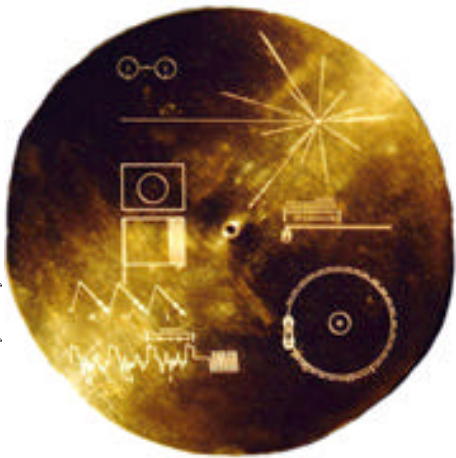


Photo by Tom Wyane / JPL Photolab P246520c



P23289a / JPL Photolab

JOURNEY to the PLANETS and BEYOND

By Angela McGahan



P1951 / JPL Photolab

Baggett, executive manager of the Office of Communications and Education, is spearheading the production of a historical video documentary of the Lab.

Work on the project has already begun, with Stone, Murray and Pickering interviewed, and Baggett encourages everyone's participation. "I want

to encourage folks at the Lab who have a story or historical anecdote to please contact me or my staff. There are many fascinating stories out there, and we would like to have an opportunity to capture as many of them as will fit. We are especially hungry for visuals—old photos and 8mm film footage."

The production effort will result in a one-hour historical documentary of JPL.

"This anniversary presents a perfect opportunity for such a project," Baggett said. "There are so many historical moments associated with the Lab, and we want to shape them into a story."

The year-long 40th anniversary of planetary exploration provides a good reason to look back on the historical images of JPL. Above left is a phonograph record placed onboard the Voyager spacecraft containing sounds and images selected to portray the diversity of life and culture on Earth. Above, Mariner 2 and Venus were the stars at Pasadena's Rose Parade on Jan. 1, 1963. At left is Mariner 2 under review at JPL.

For information about the von Kármán Visitor Center, contact the Public Services Office at ext. 4-0112.

For information about the JPL documentary project, contact the Office of Communications and Education at ext. 4-7007.

Passings

JAMES WEESE, 62, a retired engineer in Section 331, died of cancer Jan. 12 at his home in La Crescenta. Weese had worked at the Lab since 1971. He is survived by his son, Eric. Cremation services were held at Angelonos Mortuary in Pasadena.

JOHN ZIMMERMAN JR., 73, a retired senior mail handler in Section 643, died of heart failure Jan. 21. Zimmerman joined the Lab in 1968 and retired in 1993. He is survived by his sister, Helen Wild. Services were private.

WARWICK EASTWOOD, 85, a retired senior lab specialist, died of cancer Jan. 23.

Eastwood worked at JPL from 1955–81. He is survived by daughters Elaine and Joyce, five grandchildren and four great grandchildren. Services were held at Live Oak Memorial Park in Monrovia.

BILLY WAGNER, 74, a retired member of the technical staff in Section 352, died of stroke Jan. 31 at his home in Glendale.

Wagner joined the Lab in 1964 and retired in 1997. He is survived by his wife, B.J., three children and 11 grandchildren. Services were private.

Letters

I would like to thank all my co-workers and friends for the kind words and beautiful cards following the death of my mother. I was reminded what a wonderful place the Laboratory is to work.

John Beedy

I would like to thank my many friends and co-workers for their support and expressions of sympathy following the recent passing of my mother-in-law. Angie and I want to especially thank the Odyssey Project Team for their prayers and for the beautiful floral arrangement and card that were such a comfort to us and our entire family. Also, a special thank you to the ERC for the plant sent to brighten our home. Your condolences are greatly appreciated by both of us.

Matt and Angie Landano

I want to thank everyone who had a part in my send-off to retirement. It has been great knowing and working with you for the last 35 years. I will miss you very much as I enter this new phase of life.

Margie Ingersoll

My deepest gratitude and thanks to my JPL friends and co-workers for the kind expressions of support following the passing of my father. Special thanks to the MER avionics team and the ERC for the beautiful plants and thoughtful sympathy card.

Ron Morillo

Retirees

The following JPL employees retired in February: Robert Selzer, 46 years, Section 382; Donald Starkey, 44 years, Section 313; Maurice Argoud, 40 years, Section 313; Joseph Witt, 39 years, Section 368; Nickolas Climes, 38 years, Section 512; Margie Ingersoll, 35 years, Section 212; Gael Squibb, 35 years, Section 100; Jack Schwartz, 33 years, Section 313; Donald Drogosz, 32 years, Section 331; Elvin Beyer, 31 years, Section 368; James Curtis, 30 years, Section 263; Ronald Zenone, 27 years, Section 885; Baltazar Rosales, 24 years, Section 215; Irving Webb, 24 years, Section 368; Joan Taylor, 23 years, Section 215; Donald Rapp, 22 years, Section 354; Kermit Pederson, 20 years, Section 336; Rudolf Braum, 17 years, Section 356; Paul Lee, 17 years, Section 382; Allen Kanner, 14 years, Section 366; Roberta Buckmaster, 12 years, Section 920; Shirley Cameron, 11 years, Section 622; Stephen James, 11 years, Section 514.

Classifieds

For Sale

BABY ITEMS: swing, like new, Graco 3 spd., \$45; baby monitor, new, \$10; crib mattress, like new, \$30; stroller, Aprica, \$30; numerous infant toys. 626/850-4378.

BED, twin, w/white pipe headboard, mattress and box spring. 367-0969.

BEDFRAMES: double, with brass-plated head frame, \$35; single, \$10. 626/799-7929.

BICYCLE, Trek 800 mtn; black, hardly used; w/ helmet, rack and lock, \$200; WEIGHT SET for bench press, Universal, \$75. 909/988-8199.

BOOTS, mountaineering, Lowe, sz. 12, \$20; CRAMPONS & INSULATORS, \$20. 626/794-2431.

BOWL, ceramic, gray, 2 ft. dia., 10" deep, for plants, \$25/obo. 626/791-6101.

CAMERA, 2 1/4 x 3 1/4 flat bed Bellows, looks like Crown Graphic press cameras of yesteryear, but smaller; takes sheet film, incl. 8 holders & film + everything else needed; cam-era, Kodak Ektar lens, leather case, focusing loupe, focusing drop cloth, Weston meter and lens brush; you provide the darkroom, lens optics coated and unblemished, shutter crisp at all speeds, 1 to 1/400 sec., \$150. 909/624-6970.

CD JEWEL CASES, 50, \$10; DIET TAPES, Jenny Craig, set of 14, \$50; COMPUTER POWER CONTROL CTR, 5 pwr switches + 1 master sw., 5 surge-protected outlets + 2 modem/fax/phone jacks, new, \$20; ORGAN, Yamaha 415 electr. console w/13 pedals, 3 keybds, 144 rhythm patterns, pd. \$7,500, sacrfc. for \$3,000. 790-3899.

CHEST, black, 6-drawer, 15 x 16 x 50, \$30; CABINET, black, low, 2 door, one interior shelf, 27 x 21 x 32, \$30; BOOKSHELVES, white, beech wood trim, 4 shelves, 3 are adjustable, 27 x 10 x 69, \$30. 790-0355.

COMPUTER, Mac Quadra 850, incl. monitor, keyboard, mouse, modem, \$100. 248-9418.

COMPUTER, 450 MHz Pentium II, 256 MB RAM, AGP video, 4.36 GB HD, CD, \$295/obo. 626/797-3310, evenings & weekends.

COMPUTER, AMD 1.1G Athalon, 256K RAM, Iomega CDRW, Rage 128 32MB video, Sound Blaster Live soundcard, Legacy LS 120MB floppy, US Robotics 56K modem, 20 GB HD, Microsoft Me, Office 97, McAfee antivirus, Photoshop, etc., 15" monitor, keyboard, mouse, \$700. 249-6786.

COMPUTER MONITOR, Compaq, model MV720 C, 17", 16" viewable, speakers top cond., used for a year by very tidy female college student, retail price \$259 (for monitor only), sell all for \$190/obo. 626/422-2766.

COUCH, sectional, has sofa bed, 2 recliners & table w/phone hook-ups inside, great cond., light brown pattern, \$400/obo. 626/398-7811.

DINING TABLE, smoked glass top, 72" x 42", with 6 upholstered fabric chairs, exc. cond., \$425; HANDHELD COMPUTER, Cassiopeia EM500, color, Windows CE, MS Word/Excel/ Money Maps, voice recorder, 16 MB RAM, adv. calculator, Internet Explorer, MP3 player, case, exc. cond., \$199. 909/592-2279.

DRESSES, prom/evening, 2, new, designer, one by ABS, size 12, price tag \$329, sell for \$200; one by Saché, size 10, price tag \$268, sell for \$165. 241-8208, eve, Irena.

DRUM SET, Roland, electronic, good cond., \$300. 626/797-1673.

GARDEN HOSE HOLDERS, new, black ironwork, holds up to 100-ft. hose, \$60/obo; new, alum., up to 75-ft. hose, \$50/obo. 626/791-6101.

PRINTER, Canon inkjet S300, 2400 x 1200 dpi, 11 ppm black, 7.5 ppm color, new in unopened box, \$79; SPEAKER, Cerwin Vega center channel, 100 w, exc. cond., \$49; BOOM BOX, Sony, detachable speakers, 6 CD changer, cass/am/ fm, exc. cond, \$65. 909/592-2279.

MISC.: Star Wars stormtrooper, 6-ft. freestanding cardboard figure, \$15; moped, Motobecane model 50, very low mileage, doubles as bicycle when engine is disengaged, needs a little work, \$100; cartridge drive, Syquest 44 MB, \$15; cartridges, Syquest 44 MB, \$1/ea. 790-3899.

MOVING SALE: bedrm set w/double bed, dresser, chest, nightstand, \$275; student desk, \$25; computer desk, \$20; daybed, \$20, curtain rods, \$3; hi-fi syst., \$100; washer/dryer, \$275. 248-9418.

MOVING SALE: matr., single, w/frame, \$100; matr., queen, \$50; refrigerators, G.E., side by side, \$100, bike, girl's, \$30. 626/572-8670, eve. or weekend.

PHOTOGRAPHIC ENLARGER, med. format, handles 35mm, 6 x 6, 6 x 7 & 6 x 9, lenses and neg carriers all complete, oldie but goodie all-metal Omega B6, all lenses needed for all formats: 50mm, 80, 90 and 105 sharp modern 6-element lenses, timer and other extras, \$250. 909/624-6970.

PRINTER INK CARTRIDGES, for HP Deskjet 900 series, may also work on 700 and 800 as well, 1 color cartridge #78, 2 b/w cartridges, brand new, best offer. 626/577-6638, Suzanne.

REFRIGERATOR, small, Sanyo, ideal for office or den, exc. cond., 19 1/2" d x 18" w x 16" h, \$45. 236-4869, after 5 p.m.

REFRIGERATORS, G.E., 1 is beige, 17 yrs. old, side by side, \$100, 1 is white, 15 yrs. old, freezer on top, \$100; TABLE, dining rm, w/leaf, cherry wood tops, black legs, 4 chairs, gd cond., \$150; SOFA/SLEEPER, makes into qn bed, abstract black, blue/mauve design, gd. cond., \$300; BIKES, 4, children's, \$15/ea. 626/357-8210.

SATELLITE SYSTEM, compl. big backyard dish, General Instr. 2650R receiver, video cipher II, digital audio + remote cont. & G.I. 2000 PS ant. positioner pwr. supply, \$650/obo. 626/794-0577.

SKI EQUIPMENT: Dynastor Sprint 175 skis, Tyrolia 470 bindings, Rossignol MID 4 buckle boots, size 25.5. Swan Ultra poles, \$50. 957-4928.

SKIS: pair ladies x-country, poles & Alfa boots, used once; pair downhill 180 cm, poles, boots; pair mountaineering, (7'6", 225 cm), 1940s vintage hickory w/metal edges and cable bindings. 249-8524.

SOFA/LOVESEAT, exc. cond., \$200/both; CHAIR, matching, swivel, \$50; TABLES, coffee and 2 end, oak with beveled glass inset, exc. cond., \$100/all; MICROWAVE, stainless steel, countertop, 1 month new, \$40. 661/254-7443.

TOY COLLECTION, Star Trek, huge: all in mint, unopened cond.; pricing for indiv. items, but prefer to sell collection as a whole; will deal on pricing for compl. collection, unpriced items open for offers; http://briefcase.yahoo.com/john_de_pablos then stlist.xls for details/ prices. 777-9671 or john_de_pablos@hotmail.com.

TRIPOD, Velbon Victory 550, great cond., \$15; PILOT'S GEAR, includes pelcor headphones, flight bag, nav. tools, etc., great cond., \$50. 626/487-2862.

VACUUMS: Hoover steam, w/upholstery attachment, used twice, \$100; Hoover w/attachments, exc cond. \$25; 4-WHEEL WALKER w/ hand brakes, seat & carrying basket, like new, \$75; aluminum walker, \$25; 2 security bars for edge of bathtub, \$15 each. 352-3112.

WOODMASTER MACHINE, 6 in 1, Shopsmith copy, variable power 1.5 to 3 HP, 900-5200 rpm, 10" table saw, 34" lathe, 16.5" drill press, horizontal boring, disk sander, overhead pin router; also 18" jigsaw, lots of accessories, happy to e-mail you pictures, one user, in top shape, manuals incl., \$695/obo. 354-9700.

Vehicles/Accessories

'91 ACURA Integra LS, white, manual, 158K mi., sunroof, a/c power windows, cd, looks/runs great, \$3,900. 213/448-0663.

'83 BMW 633C SI, black, orig. paint, cosmetically sharp, well-maint., good records, \$5K/ obo over retail blue book. 626/836-3931.

'89 CHEVROLET C3500 Silverado, 1-ton Dual-ly, extended cab, a/c, pwr. windows, cruise, etc., newer trans rebuilt, new radiator, brakes, bush- ings, strong running truck, great for tow vehicle, needs paint, 94K mi., \$5,900/obo. 249-4729.

'99 FORD Taurus LX, silver inside and out, cloth seats, 4 dr., limo tinted windows, power windows/brakes/steering, AM/FM/cassette, 2 new tires, peppy 6 cylinder, good gas mileage, 54,000 fwy. miles, \$7,500/obo. 626/568-0004.

'98 FORD Windstar GL minivan, exc. cond., tan, auto, 42K mi., 10-disk CD changer, recently serviced, great family vehicle, below blue book trade-in, \$9,000. 626/441-0150, Danny.

'97 FORD Taurus GL, sedan, 83,000 mi., V6, 4 dr., auto trans, a/c., pwr. steering/ABS brakes/ windows/doorlocks/driver's seat, tilt wheel, cruise control, AM/FM stereo cass., metallic silver exterior, gray int., 4 new Michelin tires, current registration, \$5,495. 626/798-1765.

'95 FORD Windstar XL van, rear air, captain's chairs, many other extras, 83,000 mi., well maintained, all records, runs great, \$7,800. 626/447-6423.

'94 FORD Mustang GT convertible, exc. cond., new brakes/clutch, leather interior, 10-disc CD changer, LoJack equipped, \$9,900. 701-9260.

'92 FORD F150 Truck, 67K mi., orig. owner, longbed w/key-lock matching camper shell, exc. cond., 5 spd., V8, a/c, am/fm stereo cass., 4:10 rear axle for towing, 4 new Bridgestone tires, white ext., gray int., bench seat, no pets, no smoking, very clean, Oct. sched. maint., current regis. w/new smog certificate, \$6,495. 626/798-1765.

'96 DODGE Neon, blue, 2 dr., AM/FM/cassette, CD w/multi-changer and remote, 132K mi., \$3,500/obo. 909/596-8117.

'94 HONDA Accord EX station wagon, 91K mi., auto locks, windows, side mirrors, etc., moon-roof, 4-whl. disc ABS, \$6,500. 626/564-1471 or bogusboo@hotmail.com.

'92 HONDA Accord EX sedan, 4 dr., 106K mi., gd. cond., white w/blue int., auto, 4 cyl. 2.2L front-wheel dr., a/c, p/s, p/w, p/dl, cruise cont., ABS, tilt whl., sun/moon roof, am/fm stereo/ cass., anti-theft, gd. tires, \$6,000. 626/296-9073, Patli.

'90 HONDA Civic LX, 153K mi., red, 5 spd., am/ fm/cass., pwr steering/windows/door locks, all records, runs great, vg cond., avail. end of March, \$2,900/obo. 626/840-0455 or 626/796-7386.

'94 JEEP Grand Cherokee Laredo, 4 x 4, silver, auto, 108K mi., running board, Infiniti system, PIAA fog lights, exc. cond., well maintained, loaded, below blue book trade-in, \$5,500. 626/441-0150, Danny.

'85 MERCEDES MBZ 300D, turbo, diesel, silver-blue, automatic, \$2,850. 626/355-9733.

'87 NISSAN Sentra, 2 dr. HB, only 64K, red/ gray, auto trans., exc. air cond., new tires, am/fm stereo cass., anti-theft device, very clean, \$2,600/obo. 626/449-8224.

'96 OLDSMOBILE Ciera, exc. cond. in looks and performance, garaged most of its life, gold ext., tan interior, a/c, pwr. steering/windows /locks, cruise control, \$5,500. 249-6208.

'95 SAAB 9000 CS, 5 dr., 101K mi., 1 owner, exc. cond., auto, ABS, front airbags, alarm, keyless entry, sun/moonroof, heated seats, climate control, am/fmcass., power windows, cruise control, \$10K/obo. 626/683-3544.

'99 TOYOTA 4Runner Ltd., 4 x 4, 2-tone black, leather seats, wooden panels and console, a/c, running board, rear a/c, moon roof, roof rack, tow pkg, 27K mi., \$25,500. 909/599-3230.

'93 TOYOTA Tercel, 2 door, 37,000, a/c, 4-speed manual, exc. cond., airbags, \$5,000/obo. 626/794-4921 or 323/393-2831, Bert.

'88 TOYOTA pickup, 4x4, auto V6, long bed, shell, white, gd. cond., 114K mi., \$3,350/obo. 626/794-4592.

'83 VOLVO DL wagon, 150K mi., auto, a/c, p/s, cruise cont., am/fm/cass., roof rack, maroon, gd. cond., \$1,700. 626/794-2431.

'00 VW Jetta GLS, silver, 5 speed, pwr. everything, prem. sound system, 8 speakers, moon-roof, cruise control, dual airbags, ABS, black interior, exc. cond., \$16,000. 661/273-4074.

Wanted

GALLERY GUIDE: "Art in America," recent issues; VIEW CAMERA FILM HOLDERS for 4 x 5, in exc. or vg cond. 626/584-0660.

HOUSING, 2 bd. in a nice area, ideal rent is \$1,000/mo. or less. 626/963-4429, Jennifer.

ROOM/STUDIO, with ba., weeknights only, female retiree needs quiet, private, clean and reasonable lodging 3-4 nights/week. 468-6682, after 2:30 p.m. or 909/244-4330, weekends.

SPACE INFO/memorabilia from U.S. & other countries, past & present. 790-8523, Marc Rayman.

VOLLEYBALL PLAYERS, coed, no beginners please, Tuesday nights 8-10:00 at Eagle Rock High School, \$3/night. 956-1744, Barbara.

WALKERS/SPONSORS, California Liver Walk, Sat., June 1, at Griffith Park: we'll join thousands throughout California working to raise dollars to help find a cure for hepatitis and other liver diseases. 626/355-1765, Holli Leonard.

Lost & Found

Lost: UMBRELLA, black w/silver handle, -Jan. 25 @Bldg. 238-543. Ext. 4-6864 or 626/357-1229.

Free

FILL DIRT, clean, haul as much or little as you want of the 4 cu. yards, located near Los Robles/Jackson, Pasadena. 626/791-3103.

WATER LILY CUTTINGS, hardy. 790-8523.

For Rent

ALTADENA, exc. Rubio Canyon area, furn .room in home w/access priv. to kitchen/laundry/din. rm., no smoking, no pets, \$400. 626/797-8082.

ALTADENA house, 2 bd., 2 ba., hardwd. floors, fireplace, att. 2-car gar. w/laundry facilities; on private street; water, garbage and gardener included, avail. March 1, \$1,300. 626/798-3640.

LA CANADA/FLINTRIDGE, walk to JPL from horse trial, sep. sm. rm w/ba., a/c, microwave, fridge, partially furn., temp OK, gated sep. entr., very private, free util., \$650. 790-1893.

MONROVIA / ARCADIA border, front house, 2 bd., 1 ba., vg carpet, new paint, vg stove, washer/dryer hook up, nice front yard, covered patio, water and gardener paid, nice area, avail. March, \$800. 626/447-5725.

PASADENA/MADISON HEIGHTS condo, spacious 1,500 sq. ft., 2 bd., 2 ba., newly remod-eled, 2-car gar., 1/4 mile to Caltech, \$1,680. 626/233-9496 or <http://members.aol.com/PasCondo>.

PASADENA condo, 1 bd., 2 ba. & den that can be used as bd., walking dist. to S. Lake and Old Town, central air and heat, large balcony and secured parking, \$1,300. 626/826-9868.

PASADENA, 1 bd., 1 ba., upstairs, your own 4 walls, hardwood floors, beautiful view, near Eaton Cyn., gas stove, fridge, window a/c, private washer/dryer, garage, about 6 mi. from JPL, owner pays water, trash, maintains grounds; no dogs, other pets negotiable, non-smokers only, avail. Feb. 21, credit check \$30, \$885, \$1,770 security. 626/794-1841, Claire.

PASADENA cottage, 1 bd., 1.5 ba., your own 4 walls: hardwood floors, one story, lovely garden, near Eaton Cyn., gas stove, fridge, window a/c, private washer/dryer; garage, about 6 mi. from JPL, owner pays water, trash, main-tains grounds; no dogs, other pets negotiable, non-smokers only, avail. March 1, credit check \$30, \$885, \$1,770 security. 626/794-1841, Claire.

PASADENA, large 1 bd., unfurnished, c/a, carpet, all appliances, laundry, pool, parking; Del Mar & Sierra Madre, 6 mo. or 1 yr. lease, avail. March 1, \$25 credit check, \$1,100 + \$400 deposit. 626/744-0929, Pat.

PASADENA, spacious 2-story condo, 3 bd., 2.5 baths, prestigious community, beaut. inter., bright ktch., prof. landscape, ctrl. air & heat, close to shop., cozy l/r w/FP, end unit, frml d/r, hdwd. flrs., immac. cond., close to schls. \$1,750. 626/396-9024.

SOUTH PASADENA studio apt, fully furn., 1718 Huntington Dr., betw. Marengo and Milan Sts. utilities paid, car space, laundr y, non-smoker, no pets. \$750. 626/792-9053, Marilyn or Ray.

Real Estate

HELENDALE, Calif., country club membership, 2-bd. condo, 4 wks. in resort community w/2 lakes, many amenities, free golf all year at PGA-rated course w/driving range & putting green, less than 2 hrs. fr. Pasadena, exch. privileges w/3,000+ affiliate domestic and int'l resorts, illness forces sale, \$22K. 805/967-7725.

SHOW LOW, Ariz., 3-bd. house, 43 acres w/ponderosa pines, natural gas, sewer in town subdivision, great investment property, house needs help, \$35K/obo. randall.mielke@fijivillage.com.

WILLIAMS, Ariz., 43 acres and 2-room house, seasonal pond, wildlife everywhere, house located on top of cliff w/great views, 4-mile dirt access year round, great investment, \$50,000/obo. randall.mielke@fijivillage.com.

Vacation Rentals

BIG BEAR LAKEFRONT, luxury townhome, 2 decks, tennis, pool/spa, beautiful master bd. suite, sleeps 6. 949/786-6548.

CAMBRIA, ocean front house, sleeps up to 4, exc. view. 248-8853.

FLORENCE, Italy; sunny, 2 bd., 1 ba., apt. near Boboli Gardens and Pitti Palace, kitchen and small study/laundry room, 3 floor, no elevator, 3-day min., \$85/day. mary@chemother.it.

HAWAII, Kona, ocean front on Keauhou Bay, house & guest house comfortably sleep 6, 3 bd., 2 ba., rustic, relaxing & beautiful, swimming, snorkeling, fishing, spectac.r view, near restaur., golf, other attractions. 626/584-9632.

HAWAII, Maui condo, NW coast, ocean front view, 25 ft. fr. surf, 1 bd. w/loft, compl. furn. phone, color TV, VCR, microwave, d/w, pool, priv. lanai, slps 4, laundry fac., 4/15-12/14 \$105/nite/2, 12/15-4-14 \$120/nite/2, \$15/nite/add'l person. 949/348-8047.

MAMMOTH, Courchevel: fully equipped unit, 2 bd., 2 ba., sleeps 6; short walk to Canyon Lodge and ski lifts. 661/255-7958.

MAMMOTH, Snowcreek, 2 bd., 2 ba., + loft, sleeps 6-8, fully equip'd kitch. w/microwave, D/W; cable TV, VCR, phone; balcony w/view to mtns., Jacuzzi, sauna, streams, fishponds; close to Mammoth Creek, JPL discount. 626/798-9222 or 626/794-0455.

OCEANSIDE, on the sand, charming 1-bd. condo, panoramic view, walk to pier & harbor , pool/spa, game rm., sleeps 4. 949/786-6548.

PACIFIC GROVE hse, 3 bd., 2 ba., fp, cable tv/ vcr, stereo/CD, well-eqpd kit w/microwav, beaut. furn, close to golf, bches, 17 Mile Dr, Aquar., Cannery Row, JPL discnt. 626/441-3265.

PARIS, France; beautifully furn. & equipped duplex apt. in stylish new bdg. in the 6th arrondissement; avail. monthly, perfect for a couple, centr. located yet compl. quiet. 626/792 5942.

ROSARITO BEACH condo, 2 bd., ocean view, pool, tennis, short walk to beach on priv. rd., 18-hole golf course 6 mi. away, priv. secure parking. 626/794-3906.